

Goulder, R. (2015). Increase in bog-mosses (*Sphagnum*) and other changes in the vegetation of Ringinglow Bog (Southern Pennines) since the 1940s. *The Naturalist* 140: 134-145

**Appendix 1a. Braun-Blanquet scores for twenty 1-m<sup>2</sup> quadrats in the *Eriophorum angustifolium*-dominated, with *E. vaginatum*, vegetation in the main flush area of Ringinglow Bog, November-December 2014**

	Quadrat number (a1-a20)																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>Vascular plants</b>																				
<i>Calluna vulgaris</i>	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	+	0	0
<i>Deschampsia flexuosa</i>	1	2	1	1	3	2	2	2	2	2	1	3	2	3	2	1	2	1	2	1
<i>Empetrum nigrum</i>	0	0	+	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0
<i>Erica tetralix</i>	0	2	2	3	0	+	+	3	0	1	2	0	0	0	+	+	0	0	+	0
<i>Eriophorum angustifolium</i>	5	4	4	4	4	4	3	4	3	5	5	5	5	5	5	5	4	5	4	5
<i>Eriophorum vaginatum</i>	1	2	2	2	1	1	2	1	2	2	1	1	1	+	1	+	1	1	+	2
<i>Molinia caerulea</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sorbus aucuparia</i> (sapling)	0	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0
<i>Vaccinium oxycoccos</i>	+	+	+	+	+	+	+	+	0	0	+	+	1	+	1	1	+	+	+	1
<b>Mosses</b>																				
<i>Hypnum jutlandicum</i>	0	0	1	0	0	0	0	+	0	0	0	0	2	0	0	0	0	0	0	0
<i>Polytrichum commune</i>	3	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0
<i>Rhytidiadelphus squarrosus</i>	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sphagnum capillifolium/subnitens</i>	1	3	0	0	0	0	0	0	2	+	3	0	0	0	0	+	0	1	0	0
<i>Sphagnum cuspidatum</i>	0	0	0	4	0	0	0	0	0	0	0	2	0	3	0	0	0	0	3	0
<i>Sphagnum fimbriatum</i>	1	0	0	0	0	0	0	+	0	1	0	0	0	0	0	0	0	0	0	2

0=not recorded, +=sparse, 1=common but <5% cover, 2=5-25% cover, 3=25-50% cover, 4=50-75% cover, 5=>75% cover.

Quadrats are at 10 pace intervals more or less on the line followed by Conway in the 1940s.

*Sphagnum* records are shaded.

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**Appendix 1b. Braun-Blanquet scores for twenty 1-m<sup>2</sup> quadrats in the vegetation dominated by *Eriophorum vaginatum* (with *Deschampsia flexuosa*) in the main flush area of Ringinglow Bog, November-December 2014**

	Quadrat number (v1-v20)																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>Vascular plants</b>																				
<i>Calluna vulgaris</i>	0	0	+	0	0	0	0	0	0	0	0	0	1	1	+	4	0	0	0	0
<i>Deschampsia flexuosa</i>	1	1	1	1	1	2	3	4	3	2	1	1	3	2	4	2	3	3	2	2
<i>Empetrum nigrum</i>	0	0	0	0	0	0	0	0	0	0	0	+	0	+	0	0	+	+	0	0
<i>Erica tetralix</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	2	+	0	1	+	0	0
<i>Eriophorum angustifolium</i>	2	1	+	1	+	0	0	0	0	0	+	0	+	+	1	+	+	1	1	1
<i>Eriophorum vaginatum</i>	3	3	5	4	5	4	4	3	4	5	5	5	4	3	3	3	4	3	4	4
<i>Galium saxatile</i>	+	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Vaccinium oxycoccos</i>	+	0	1	1	0	1	0	1	1	1	1	+	+	+	1	+	0	+	+	1
<b>Mosses</b>																				
<i>Campylopus flexuosus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0
<i>Dicranella heteromalla</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	0	+	0	0
<i>Hypnum jutlandicum</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0	0
<i>Polytrichum commune</i>	2	3	+	1	0	0	0	2	0	0	+	0	0	1	0	0	0	3	0	0
<i>Rhytidiadelphus squarrosus</i>	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sphagnum fallax</i>	4	+	0	+	0	3	0	+	2	0	0	0	0	0	0	0	0	0	+	0
<i>Sphagnum fimbriatum</i>	0	1	3	4	4	2	3	0	0	2	2	2	2	1	+	0	0	0	3	5

0=not recorded, +=sparse, 1=common but <5% cover, 2=5-25% cover, 3=25-50% cover, 4=50-75% cover, 5=>75% cover.

Quadrats are at 10 pace intervals more or less on the line followed by Conway in the 1940s except that quadrats 19 & 20 are on a parallel line about 20 m west of quadrats 1 & 2.

*Sphagnum* records are shaded.

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**Appendix 2.** Ringinglow Bog, main flush area, November-December 2014; DECORANA ordination plot for species. Abbreviations refer to the scientific names of plants that are given in Appendices 1a & 1b. The scale on the axes indicates relative difference between habitat preferences.

